

REMARKS

Claims 37 and 38 are amended. Claims 39-42, 46, 52 and 59 are cancelled. Claims 37-38, 44-51 and 53-58 are pending in the application.

Claims 37-42 and 44-59 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner indicates that the original specification does not support the recited limitation of "non-iron based alloy". Applicant maintains the position set forth in the previous response that such recitation is clearly supported by the specification since such non-iron based alloys are inherent in the disclosed materials. However, in order to expedite prosecution of the application and without admission as to the propriety of the Examiner's rejection, the claims are amended to no longer recite "non-iron based alloy". Accordingly, applicant respectfully requests withdrawal of the § 112, first paragraph, rejection of the claims in the Examiner's next action.

Claims 38-42, 48-55 and 58-59 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dunlop, U.S. Patent No. 5,780,755. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. With respect to independent claim 39 and claims 40-42 and 59 which depend therefrom, without admission as to the propriety of the examiner's rejection such claims are cancelled. With respect to claim 38 and claims 48-55 and 58 which depend therefrom, such are allowable over Dunlop for at least the reason that Dunlop fails to disclose or suggest each and every

limitation in any of those claims.

As amended, independent claim 38 recites an alloy produced from a cast material where the alloy comprises a non-iron majority element and has uniformly distributed second phase precipitates, the alloy comprising a first element selected from Ni and Ag and a second element selected from the group consisting of Al, Cu, Pt, Au, Mo, and Ta. The amendment to claim 38 incorporates the subject matter of dependent claim 52. Claim 52 is appropriately cancelled. Dunlop discloses processing of various metals which can comprise copper, silicon, zirconium, titanium, tungsten, platinum, gold, niobium, rhenium, scandium, cobalt, molybdenum, hafnium and alloys thereof (col. 4, ll. 12-41). Dunlop does not disclose or suggest the claim 38 recited alloy having a first element selected from Ni and Ag. Accordingly, independent claim 38 is not rendered obvious by Dunlop and is allowable over this reference.

Dependent claims 48-55 and 58 are allowable over Dunlop for at least the reason that they depend from allowable base claim 38.

Claims 37, 44-47 and 56-57 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dunlop, U.S. Patent No. 5,780,755 in view of "Aluminum and Aluminum Alloys" pp. 290-292.

As amended independent claim 37 recites an alloy produced from a cast material by a method comprising solutionizing the alloy to dissolve all precipitates, quenching the solutionized alloy, and subsequently subjecting the alloy to equal channel angular extrusion, the resulting alloy being precipitate free and having a substantially uniform grain size of less than about 1 micron. The amendment to claim 37 incorporates the subject matter of claim 46. Dependent claim 46 is appropriately cancelled. The amendment to

claim 37 is further supported by the specification at, for example, page 6, lines 18-30. As acknowledged by the Examiner at page 5 of the present Action, the Dunlop disclosure does not teach or suggest the resulting alloy being precipitate free. The Examiner indicates however, that it would be obvious to achieve a precipitate free solid solution because the presence or absence of precipitates is known to be dependent on solution heat treating, indicating reliance on the cited 'Aluminum and Aluminum Alloys' reference. However, applicant notes that as set forth in applicant's specification at page 6, lines 18-30, conventional solutionizing to produce precipitate free materials utilizes solutionizing at a last processing step. As discussed, final step solutionizing typically produces very large grains. However as further discussed, the methodology of the invention which comprises a solutionizing step and subsequent ECAE as recited in claim 37 allows an absence of precipitates and ultra-fine grained materials not achievable by conventional methods. Accordingly, the recited combination of precipitate free and ultra-fine grains is an unexpected advantage. Independent claim 37 is therefore not rendered obvious by the cited combination of Dunlop and "Aluminum and Aluminum Alloys" and is allowable over these references.

Dependent claims 44-45, 47 and 56-57 are allowable over the cited combination of Dunlop and "Aluminum and Aluminum Alloys" for at least the reason that they depend from allowable base claim 37.

For the reasons discussed above, pending claims 37-38, 44-51 and 53-58 are allowable. Accordingly, applicant respectfully requests formal allowance of such pending claims in the Examiner's next action.

Respectfully submitted,

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